

ABSTRACT OF THE DISCLOSURE

[00102] The invention includes a copper-comprising sputtering target. The target is monolithic or bonded and contains at least 99.99% copper by weight and has an average grain size of from 1 micron to 50 microns. The copper-comprising target has a yield strength of greater than or equal to about 15 ksi and a Brinell hardness (HB) of greater than about 40. The invention includes copper alloy monolithic and bonded sputtering targets consisting essentially of less than or equal to about 99.99% copper by weight and a total amount of alloying element(s) of at least 100 ppm and less than 10% by weight. The targets have an average grain size of from less than 1 micron to 50 microns and have a grain size non-uniformity of less than about 15% standard deviation (1-sigma) throughout the target. The invention additionally includes methods of producing bonded and monolithic copper and copper alloy targets.